

What is claimed is:

1. A method for expanding the mode-field diameter of an optical fiber comprising heating an end of the optical fiber to a temperature of about 500 °C to about 2000°C.
2. The method of claim 1, wherein the optical fiber is a dispersion compensating fiber.
3. The method of claim 1, wherein the fiber is heated for a period of about 1 to about 40 minutes.
4. The method of claim 1, wherein the fiber is heated for a period of about 10 to about 30 minutes.
5. The method of claim 1, wherein the fiber is adapted to be spliced to a second optical fiber having a larger mode field diameter with a splice loss of from about 0.05 dB to about 0.3 dB.
6. The method of claim 1, wherein the fiber has an adiabatic taper of from about 1 mm to about 6 mm.
7. The method of claim 1, wherein heating the end of the optical fiber comprises applying heat generated by a fuel source, wherein the fuel source comprises an organic liquid.
8. The method of claim 7, wherein the organic liquid comprises an alcohol.
9. The method of claim 7, wherein the organic liquid comprises an alcohol of six or fewer carbons and having only one hydroxyl group.
10. The method of claim 7, wherein the organic liquid comprises methanol.
11. A method of splicing a first optical fiber having a smaller mode-field diameter to a second optical fiber having a larger mode field diameter comprising:
 - (a) heating the end of the first optical fiber having the smaller mode field diameter to a temperature of about 500 °C to about 2000°C to expand the mode field; and
 - (b) abutting the end of the expanded mode field fiber with the end of the second optical fiber having the larger mode field diameter.
12. The method of claim 11, wherein the first optical fiber having the smaller mode field diameter is a dispersion compensating fiber.
13. The method of claim 11, wherein the fiber is heated for a period of about 1 to about 40 minutes.

14. The method of claim 11, wherein the fiber is heated for a period of about 10 to about 30 minutes.
15. The method of claim 11, wherein the fiber is adapted to be spliced to a second optical fiber having a larger mode field diameter with a splice loss of from about 0.05 dB to about 0.3 dB.
16. The method of claim 11, wherein the fiber has an adiabatic taper of from about 1 mm to about 6 mm.
17. The method of claim 11, wherein heating the end of the optical fiber comprises applying heat generated by a fuel source, wherein the fuel source comprises an organic liquid.
18. The method of claim 17, wherein the organic liquid comprises an alcohol.
19. The method of claim 17, wherein the organic liquid comprises an alcohol of six or fewer carbons and having only one hydroxyl group.
20. The method of claim 17, wherein the organic liquid comprises methanol.
21. A method for expanding the mode-field diameter of an optical fiber comprising heating the optical fiber to a temperature of about 500 °C to about 2000°C by applying heat to the optical fiber generated by a fuel source, wherein the fuel source comprises an organic liquid.
22. The method of claim 21, wherein the optical fiber is a dispersion compensating fiber.
23. The method of claim 21, wherein the fiber is heated for a period of about 1 to about 40 minutes.
24. The method of claim 21, wherein the fiber is heated for a period of about 10 to about 30 minutes.
25. The method of claim 21, wherein the organic liquid comprises an alcohol.
26. The method of claim 21, wherein the organic liquid comprises an alcohol of six or fewer carbons and having only one hydroxyl group.
27. The method of claim 21, wherein the organic liquid comprises methanol.